UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,398	04/27/2001	Chakkalamattam J. Paul	AUS920000858US1	1317

35525 7590 07/02/2007	EXAMINER	
IBM CORP (YA)	OSMAN, RAMY M	
C/O YEE & ASSOCIATES PC		
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DALLAS, TX 75380	2157	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	09/844,398	PAUL ET AL.
	Examiner	Art Unit	
	Ramy M. Osman	2157	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>12 December 2006</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>3-17,20-34 and 37-51</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>3-17,20-34 and 37-51</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Status of Claims

1.   This communication is responsive to amendment filed on December 12, 2006, where

applicant cancelled claims 1,2,18,19,35,36, and amended claims 6,23,40. Claims 3-17,20-34,37-

51 are pending.

Response to Arguments

2.   Applicant's arguments filed 12/12/2006 have been fully considered but they are not

persuasive.

3.   Applicant argues that Yoshida fails to teach determining whether a server is able to

service additional requests.

   In reply, Yoshida teaches determining an available server, from among a group of

servers, has sufficient resources to be able to service a client request (see at least Abstract).

When an available server is found, the client request is then forwarded to that particular server.

This reads on Applicants claims because Applicants claim language is broad and fails to

explicitly state which of the inventive steps occur first, second, third etc.. Absent an explicit

chronological sequence, Applicants claims are seen to be anticipated by Intel Corp in view of

Yoshida.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 3,5,20,37 rejected under 35 U.S.C. 103(a) as being unpatentable over Intel Corp ('Preboot Execution Environment (PXE) Specification', 9/20/1999) in view of Yoshida et al (US Patent No 6,401,121).

6.   In reference to claim 3,20 and 37, Intel teaches a method, an apparatus and a computer program product for facilitating a remote boot process in a client device, wherein the client device and the server device reside on a network, the method comprising the steps of:

receiving at the server device a boot request from the client device, wherein the server device is one of a plurality of boot servers on the network, and wherein the server device is able to respond to a boot request from any client on the network (see pages 12-14, step 5 and Figure 2-1, step 5);

in response to a determination that the server device is able to service an additional boot request, sending a boot response to the client device, wherein the boot response to the client device to download boot files from the server device (see pages 12-14, steps 6&7 and Figure 2-1, steps 6&7).

Intel fails to explicitly teach determining whether or not the server device is able to service an additional boot request. However, Yoshida teaches prior to sending a server response to a client device, determining that the server device has sufficient resources to service a request for an additional client device (Abstract and Summary). It would have been obvious for one of ordinary skill in the art to modify Intel by defining an available boot server as a server with

sufficient resources as per the teachings of Yoshida so server loads can be distributed and

prevent server overload (i.e. exceeded load capacity).

7.   In reference to claims 5, Intel teaches the method of claim 3 further comprising:

executing a boot service on the server device for processing a PxE-extended Boot Service

Discover message from a client (Figure 2-1).

8.   **Claims 4,21,38 rejected under 35 U.S.C. 103(a) as being unpatentable over Intel**

Corp ('Preboot Execution Environment (PXE) Specification', 9/20/1999) in view of Yoshida

et al (US Patent No 6,401,121) in further view of Microsoft Corp. ('Description of PXE

Interaction Among PXE Client, DHCP, and RIS Server', 12/29/1999).

9.   In reference to claims 4,21 and 38, Intel teaches the method, the apparatus and the

computer program product of claims 3,20 and 37 respectively, further comprising:

        wherein a boot request is formatted as a PxE-extended (Preboot Execution Environment

extended) DHCP Request message, and wherein the boot response is a PxE-extended DHCP Ack

message; and (see pages 12-14, step 4 and Figure 2-1, step 4).

        Intel disclose executing a proxy DHCP service on a DHCP server and discloses a Boot

server (Figure 2-1). Intel fails to explicitly teach executing a proxy DHCP (Dynamic Host

Configuration Protocol) service on the server device for processing a boot request. However,

Microsoft teaches where the DHCP server (and subsequently the proxy DHCP service, which is

an inherent part) and the Boot server being on the same server for the purpose of shortening

communication between clients and servers.

It would have been obvious for one of ordinary skill in the art to modify Intel by making

the DHCP server (and subsequently the proxy DHCP service, which is an inherent part) and the

Boot server being on the same server as per the teachings of Microsoft for the purpose of

shortening communication between clients and servers.

10. **Claims 6-17,22-34,39-51 rejected under 35 U.S.C. 103(a) as being unpatentable over**

Intel Corp ('Preboot Execution Environment (PXE) Specification', 9/20/1999) in view of

Microsoft Corp. ('Description of PXE Interaction Among PXE Client, DHCP, and RIS

Server', 12/29/1999) in view of Yoshida et al (US Patent No 6,401,121).

11.   In reference to claims 6,23 and 40, Intel teaches a method, an apparatus and a computer

program product for facilitating a remote boot process in a client device, wherein the client

device and the server device reside on a network, the method comprising the steps of:

receiving at the server device a PXE DHCP Request message from the client device,

wherein the server device is one of a plurality of boot servers on the network, and wherein the

server device is able to respond to a PXE DHCP Request message from any client on the

network (see pages 12-14, step 5 and Figure 2-1, step 5);

sending from the server device a PXE DHCP Ack message to the client device, wherein

the PXE DHCP Ack message directs the client device to download boot files from the server

device (see pages 12-14, steps 6&7 and Figure 2-1, steps 6&7).

Intel disclose executing a proxy DHCP service on a DHCP server and discloses a Boot

server (Figure 2-1). Intel fails to explicitly teach executing a proxy DHCP (Dynamic Host

Configuration Protocol) service on the server device for processing a boot request. However,

Microsoft teaches where the DHCP server (and subsequently the proxy DHCP service, which is

an inherent part) and the Boot server being on the same server for the purpose of shortening

communication between clients and servers. It would have been obvious for one of ordinary

skill in the art to modify Intel by making the DHCP server (and subsequently the proxy DHCP

service, which is an inherent part) and the Boot server being on the same server as per the

teachings of Microsoft for the purpose of shortening communication between clients and servers.

Intel fails to explicitly teach determining whether or not the server device is able to

service an additional boot request. However, Yoshida teaches prior to sending a server response

to a client device, determining that the server device has sufficient resources to service a request

for an additional client device (Abstract and Summary). It would have been obvious for one of

ordinary skill in the art to modify Intel by defining an available boot server as a server with

sufficient resources as per the teachings of Yoshida so server loads can be distributed and

prevent server overload (i.e. exceeded load capacity).

12.   In reference to claims 7,24 and 41, Intel teaches the method, the apparatus and the

computer program product of claims 6,23 and 40 respectively, further comprising:

Receiving at the server device a PXE Boot Service Discover message from the client

device (see pages 12-14, step 5 and Figure 2-1, step 5);

Processing the received PXE Boot Service Discover message within a boot service on the

server device (see pages 12-14, steps 3-7 and Figure 2-1, steps 3-7);

Sending from the server device a PXE Boot Service Ack message to the client device

(see pages 12-14, step 6 and Figure 2-1, step 6).

13.   In reference to claims 8,25 and 42, Intel teaches the method, the apparatus and the

computer program product of claims 7,24 and 41 respectively, further comprising:

receiving at the server device an NBP (Network Bootstrap Program) Download Request message from the client device (see pages 12-14, step 7 and Figure 2-1, step 7);

processing the received NBP Download Request message within a TFTP (Trivial File Transfer Protocol) service on the server device; and downloading from the server device an NBP file to the client device (see pages 12-14, step 7 and Figure 2-1, step 7); and

downloading from the server device an NBP file to the client device (see pages 12-14, step 7 and Figure 2-1, step 7).

14.   In reference to claims 9-11,26-28 and 43-45, Intel teaches the method, the apparatus and the computer program product of claims 6,23 and 40 respectively, including receiving a response form an available boot server among a plurality of boot servers and PxE extended DHCP Ack messages (see pages 12-14 and Figure 2-1). Intel does not explicitly teach prior to sending a boot response to the client device, determining that the server device has sufficient resources to service a remote boot process for an additional client device; preventing a server device from servicing additional client device if the server device has insufficient resources; and monitoring availability of the server device to adequately service additional processes. However, Yoshida teaches prior to sending a server response to a client device, determining that the server device has sufficient resources to service a request for an additional client device (Summary, column 5 lines 1-40, column 8 lines 20-45 and column 10 line 32 – column 11 line 60).

It would have been obvious for one of ordinary skill in the art to modify Intel by defining an available boot server as a server with sufficient resources as per the teachings of Yoshida so server loads can be distributed and prevent server overload (i.e. exceeded load capacity).

15.   In reference to claims 12-14,29-31 and 46-48, Intel teaches the method, the apparatus and the computer program product of claims 11,28 and 45 respectively. Intel fails to explicitly teach computing the availability of the server device to adequately service an additional remote boot process based upon resources within the server device; and communicating available resources within the server device to at least one other boot server in the plurality of boot servers on the network. However, Yoshida teaches calculating load counts and availability of servers to service additional requests (Summary, column 5 lines 1-40, column 8 lines 20-45 and column 10 line 32 – column 11 line 60).

It would have been obvious for one of ordinary skill in the art to modify Intel by defining an available boot server as a server with sufficient resources as per the teachings of Yoshida so server loads can be distributed and prevent server overload (i.e. exceeded load capacity).

16.   In reference to claims 15-17,32-34 and 49-51, Intel teaches the method, the apparatus and the computer program product of claims 10,27 and 44 respectively,. Intel fails to explicitly teach stopping service on the server device if the server device has insufficient resources for servicing an additional remote boot process; restarting a service on the server device if the server device has sufficient resources for servicing an additional remote boot process; communicating an execution status of the service on the server device to at least one other boot server in the plurality of boot servers on the network. However, Yoshida teaches not responding if insufficient resources, responding if sufficient resources, and server status (Summary, column 5 lines 1-40, column 8 lines 20-45 and column 10 line 32 – column 11 line 60).

It would have been obvious for one of ordinary skill in the art to modify Intel by defining an available boot server as a server with sufficient resources as per the teachings of Yoshida so server loads can be distributed and prevent server overload (i.e. exceeded load capacity).

Conclusion

17.   Applicant is advised that the above specified citations of the relied upon prior art are only representative of the teachings of the prior art, and that the entirety of the reference (including any figures, incorporation by references, and claims) is being applied to teach the scope of the claims. It is respectfully requested that applicant consider the reference as a whole when preparing a response.

18.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

19.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Ramy M. Osman whose telephone number is (571) 272-4008.

The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RMO
June 24, 2007

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